

REPORT ON MACHINERY.

No. 476

THU. 21 JUL

Received at London Office

4a.

Port of **Portland, Oregon**
 Date, First Survey **Oct. 16th 1914** Last Survey **Oct. 17th 1914**
 (Number of Visits **28**)
 Gross **5764.32**
 Net **4225.87**
 Master **Bennett Roberts** Built at **Portland, Ore.** By whom built **North West Steel Co.** When built **1914**
 Engines made at **Schmidt & Co. N.Y.** By whom made **General Electric Co.** when made **1914**
 Boilers made at **Portland, Ore.** By whom made **Willamette Iron & Steel Works** when made **1914**
 Registered Horse Power **2500** Owners **Sumard S.S. Co.** Port belonging to **London**
 Shaft Horse Power at Full Power **2500** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **yes**

OP No. OF TURBINE 12366. GEAR 2522. Gearsed Turbine
 No. of Turbines **One**
 Description of Engines
 Diameter of Rotor Shaft Journals, H.P. **8"** L.P. **✓** Diameter of Pinion Shaft **4"** H.S. PINION **4.833**
 Diameter of Journals **4"** Distance between Centres of Bearings **3.84** H.S. GEAR **3.84** Diameter of Pitch Circle **4.833**
 Diameter of Wheel Shaft **14"** Distance between Centres of Bearings **5.42** L.S. PINION **10.75**
 Diameter of Pitch Circle of Wheel **5.42** L.S. GEAR **5.42**
 Width of Face **14.35** Diameter of Thrust Shaft under Collars **13.8** Diameter of Tunnel Shaft **12.49**
 as per rule **12.49**
 as fitted **12.5**
 No. of Screw Shafts **One** Diameter of same as fitted **14.5** Diameter of Propeller **16 ft. 6 in** Pitch of Propeller **14 ft**
 No. of Blades **4** State whether Moveable **yes** Total Surface **62.96 sq. ft.** Diameter of Rotor Drum, H.P. **✓** L.P. **✓** Astern **✓**
 Thickness at Bottom of Groove, H.P. **✓** L.P. **✓** Astern **✓** Revs. per Minute at Full Power, Turbine **3374.5** Propeller **90**

	ACTIVE			L.P.			ACTIVE ASTERN.		
	HEIGHT OF BLADES.	H.P. PITCH DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	PITCH DIAMETER AT TIP.	NO. OF ROWS.
ST EXPANSION	1.25	2-11 1/2	2				815-1.5	3-3	2
ND	.625	3-9	1				3-3 1/2	3-3	1
RD	1.25	3-10 1/2	1						
TH	2.5	4-0	1						
TH	6	4-2	1						
TH									
TH									
TH									

No. and size of Feed pumps **TWO 14x9x16 SIMPLEX**
 No. and size of Bilge pumps **ONE 12x8 1/2x12 HORIZONTAL DUPLEX**
 No. and size of Bilge suction in Engine Room **FOUR 3 1/2", TWO 3 1/2" IN SHAFT ALLEY, ONE 3 1/2" IN THRUST RECESS**
 In Holds, &c. **TWO IN EACH OF 3 1/2"**

No. of Bilge Injections **ONE** sizes **10 1/2"** Connected to condenser, or to circulating pump **yes** Is a separate Donkey Suction fitted in Engine Room & size **TWO 3 1/2"**
 Are all the bilge suction pipes fitted with roses **yes** Are the roses in Engine room always accessible **yes**
 Are all connections with the sea direct on the skin of the ship **ON SEA STOOLS** Are they Valves or Cocks **VALVES**
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates **WHEELS ARE** Are the Discharge Pipes above or below the deep water line **BELOW**
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel **yes** Are the Blow Off Cocks fitted with a spigot and brass covering plate **yes**
 What pipes are carried through the bunkers **VENT & SOUNDING PIPES** How are they protected **WITH WOOD**
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **yes**
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges **yes**
 Is the Screw Shaft Tunnel watertight **yes** Is it fitted with a watertight door **yes** worked from **UPPER ENGINE ROOM**

OILERS, &c.—(Letter for record **(r)**) Manufacturers of Steel **WORTH BROS**
 Total Heating Surface of Boilers **8055** Is Forced Draft fitted **NO** No. and Description of Boilers **3 SCOTCH MARINE**
 Working Pressure **210 lbs** Tested by hydraulic pressure to **315 lbs** Date of test **May 1914** No. of Certificate **2**
 Can each boiler be worked separately **yes** Area of fire grate in each boiler **55 SQ. FT.** No. and Description of Safety Valves to each boiler **2 Continental** Area of each valve **9.65 SQ. IN.** Pressure to which they are adjusted **210** Are they fitted with casing gear **yes**
 Smallest distance between boilers or uptakes and bunkers **2 FT** Mean dia. of boilers **14.10 1/2** Length **11.0** Material of shell plates **STEEL**
 Thickness **1 1/2** Range of tensile strength **24 to 32 tons** Are the shell plates welded or flanged **Heads Flanged** Descrip. of riveting: cir. seams **Double riveted**
 long. seams **DOUBLE BUTT STRAPS** Diameter of rivet holes in long. seams **1 1/16** Pitch of rivets **10** Lap of plates or width of butt straps **22.8**
 Per centages of strength of longitudinal joint **84.4** Working pressure of shell by rules **220 lbs** Size of manhole in shell **12x16**

Size of compensating ring **Head Flanged 1 in** No. and Description of Furnaces in each Boiler **3 MORRISON** Material **Steel** Outside diameter **45 1/8**
 Length of plain part **top 21" crown 32" bottom 21"** Description of longitudinal joint **weld** No. of strengthening rings **15**
 Working pressure of furnace by the rules **238 1/2** Combustion chamber plates: Material **Steel** Thickness: Sides **1 1/16** Back **1 1/16** Top **1 1/16** Bottom **1 1/16**
 Pitch of stays to ditto: Sides **4x8** Back **4x8** Top **4x8** Bottom **4x8** Are stays fitted with nuts or riveted heads **1 1/2 by nuts** Working pressure by rules **214 lbs**
 Material of stays **Wrt. Iron** Diameter at smallest part **1 1/2** Area supported by each stay **54.31** Working pressure by rules **225 lbs** End plates in steam space
 Material **Steel** Thickness **1 1/4** Pitch of stays **16 3/8 x 14 1/2** How are stays secured **double nuts** Working pressure by rules **243** Material of stays **Steel**
 Diameter at smallest part **3 1/4** Area supported by each stay **286.56** Working pressure by rules **300 lbs** Material of Front plates at bottom **Steel**
 Thickness **1 1/4** Material of Lower back plate **Steel** Thickness **1 1/4** Greatest pitch of stays **13 1/2** Working pressure of plate by rules **423 lbs**
 Diameter of tubes **3 1/2** Pitch of tubes **4 1/4** Material of tube plates **Steel** Thickness: Front **1 1/16** Back **1 1/16** Mean pitch of stays **tubes 10 3/16**
 Pitch across wide water spaces **13** Working pressures by rules **283 lbs** Girders to Chamber tops: Material **Steel** Depth and thickness of girder at centre **3/4 x 11** Length as per rule **34** Distance apart **8 3/16** Number and pitch of stays in each **4 at 7 1/4" pitch**
 Working pressure by rules **286** Steam dome: description of joint to shell **✓** % of strength of joint **✓** Diameter **✓**
 Thickness of shell plates **✓** Material **✓** Description of longitudinal joint **✓** Diameter of rivet holes **✓** Pitch of rivets **✓**
 Working pressure of shell by rules **✓** Crown plates: Thickness **✓** How stayed **✓**

SUPERHEATER. Type FOSTER FIVE Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____

Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yes

Diameter of Safety Valve 1 1/2 Pressure to which each is adjusted 210 lbs Is Easing Gear fitted yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? _____

SPARE GEAR. State the articles supplied:— 1 Propeller Shaft, 1 Propeller blade, 6 coupling bolts, 1 Set feed pump valves, 1 Set bilge pump valves, 1 Set boiler feed check valves, 1 Set air pump valves, 40 Condenser tubes, 80 do for an assortment of bolts, nuts + studs and iron of various sizes.

The foregoing is a correct description,
Mellauwetter & Sons Ltd Manufacturer.
M. J. M. & Co.

Dates of Survey while building { During progress of work in shops -- Mar 16, 19, April 1, 12, 18, 23, 30 May 26
During erection on board vessel -- July 25, 31 Aug 9, 11, 13, 15, 21, 24 28, 29, 30 Sept 4, 10, 14, 19, 24 Oct 8, 28
Total No. of visits 28

Is the approved plan of main boiler forwarded herewith No

" " " donkey " " " No

Dates of Examination of principal parts—Casings _____ Rotors _____ Blading _____ Gearing _____

Rotor shaft _____ Thrust shaft 8/11 Tunnel shafts 8/11 Screw shaft 7/25, 7/31 Propeller 8/11

Stern tube 7/25, 7/31 Steam pipes tested 2/21/17 Engine and boiler seatings 8/11 Engines holding down bolts 8/11, 8/24

Completion of pumping arrangements 9/24 Boilers fired 8/9 Engines tried under steam 10/8

Main boiler safety valves adjusted Sept 17th 1917 Thickness of adjusting washers CP-1-132, CP-2-8, CP-3-1 1/8, CP-4-3 1/2, CP-5-132

Material and tensile strength of Rotor shaft _____ Identification Mark on Do. _____

Material and tensile strength of Pinion shaft _____ Identification Mark on Do. _____

Material of Wheel shaft _____ Identification Mark on Do. _____ Material of Thrust shaft Steel Identification Mark on Do. 539WL 11.5

Material of Tunnel shafts Steel Identification Marks on Do. 584 E 4-8-16 Material of Screw shaft Steel Identification Marks on Do. 550 W 120

Material of Steam Pipes Steel Test pressure 630 lbs

Is an installation fitted for burning oil fuel YES Is the flash point of the oil to be used over 150°F. YES

Have the requirements of Section 49 of the Rules been complied with YES

Is this machinery a duplicate of a previous case YES If so, state name of vessel "WAR BARON"

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Geared Turbine has been constructed under Special Survey at Schenectady Ct. Y. and installed at Portland Oregon. The Boilers have been built under Special Survey in Portland, Oregon, the material and workmanship being good. The machinery worked satisfactorily on steam trial and I would submit that the record of + LMC 10 electric light be made in the Register Book in the case of this vessel.

It is submitted that this vessel is eligible for THE RECORD + LMC 10.17. Fitted for oil fuel 10.17. FP above 150°F. J. H. Yates 2/7/18
Engineer Surveyor to Lloyd's Register of Shipping

The amount of Entry Fee ... \$ 45.00 : When applied for, Nov 22 1917
Special ... \$ 204.00 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) \$ 49.10 : When received, Nov 28 1917

Committee's Minute New York JUN 4 1918

Assigned

+ LMC 10.17 Fitted for oil fuel 10.17 FP above 150°F

Elec Light

FRI NOV 22 1917

FRI 5-JUL 1918

FRI 28-MAR 1919

© 2021

Lloyd's Register Foundation